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## THE CLANDESTINE FORM OF LEERSIA ORYZOIDES

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THE common Rice Cut-grass of North America, Europe and Asia seems first to have been mentioned by Gronovius<sup>1</sup> who characterized it as "ORYZA glumis carina hispidus," basing his designation upon Clayton's Number 595. This record is incorporated by Linnaeus<sup>2</sup> in his description of *Phalaris oryzoides* where he cites Gronovius's diagnosis in synonymy, and gives as the habitat of this plant, "in Virginiae paludibus nemorosis."

In 1780, Weber<sup>3</sup> described *Ehrhartia clandestina*, basing it upon *Phalaris oryzoides* L., which he included as a synonym. That the author had the plant of Linnaeus clearly in mind while thus establishing a new genus and a new species becomes apparent upon a careful comparison of his citations with those included in the first and second editions of the *Species Plantarum*. Also, Weber's description of *E. clandestina* follows in the main that drawn up by Linnaeus for *P. oryzoides*, the chief difference seeming to lie in the statement concerning the inflorescence, which reads, "panicula ramosa, contracta, vagina semper arcte inclusa, ut in plerisque florescentiam in illa absoluat & semina maturet." Here, then, were the characters which doubtless led to the proposal of the new specific name *clandestina* as more applicable to the plant at hand. It is thus clear that Weber was merely indulging in a practice prevalent among early post-Linnaean writers of not only altering and augment-

<sup>1</sup> Gron. Fl. Virg. 153. 1739.

<sup>2</sup> Linn. Sp. Pl. 55. 1753.

<sup>3</sup> Weber in Wiggers, Prim. Fl. Holsat. 64. 1780.

ing original descriptions but of replacing established specific names with totally new ones which may have been considered more appropriate.

The name *Leersia* was first applied to a genus of flowering plants in 1788 by Swartz<sup>1</sup> who referred to it *Phalaris oryzoides* L. and two new species from Jamaica, *L. monandra* and *L. hexandra*.<sup>2</sup> Subsequent authors adopted the treatment of Swartz and we find *Leersia oryzoides* recognized by Willdenow, Poiret, Michaux, Pursh, Muhlenberg, Trinius and many others.

In 1861 Alexander Braun considered the generic status of *Leersia* in a paper entitled "Zurückführung der Gattung *Leersia* Sw. zur Gattung *Oryza* L."<sup>3</sup> After a detailed comparison of the characters of the two genera, Braun concludes that they are but superficially distinct and proposes to unite them under *Oryza*. In so doing he discards the specific name *oryzoides*, as being too close to a repetition of *Oryza*, and takes up Weber's *clandestina*, giving the following justification for this step, "Der gebräuchliche Artname *oryzoides* verliert dadurch natürlich seine Anwendbarkeit; ich verabschiede ihn und begrüße den heimischen Reis aus den oben ausgegebenen Gründen als *Oryza clandestina*."

Leaving entirely to one side the justice of the claim of *Leersia* to generic distinction, it at once becomes apparent that those who consider it congeneric with *Oryza* are still violating recognized international nomenclatorial practice in taking up the name *O. clandestina* (Weber) A. Br. Braun's reasons for rejecting the specific name *oryzoides*, which does not "merely repeat the generic name," will certainly not appear justifiable today in the eyes of those keeping in mind Articles 55 and 57 of the International Rules. If, then, the plant in question be maintained under *Oryza*, its correct designation is *O. oryzoides* (L.) Brand.<sup>4</sup> By such eminent authorities as Koch, Godron, Boreau, Karsten, Babington, Sowerby, Bentham and Hooker, however, it has been continued under the name of *Leersia oryzoides* (L.) Sw.

Anyone who will take the trouble to acquaint himself with the references in literature to *L. oryzoides* can not fail to be impressed

<sup>1</sup> Swartz Prodr. Veg. Ind. Oc. 21. 1788.

<sup>2</sup> As *Leersia* Sw. was antedated by *Homalocenchrus* Mieg (1760) and *Leersia* Hedw. (1782) it was deemed advisable by the International Botanical Congress at Vienna to insure its continuance in the long established sense by conserving it.

<sup>3</sup> Verh. Bot. Ver. Brandenburg 2: 195-205. 1861.

<sup>4</sup> Brand in Koch Syn. Deutsch. Schweiz. Fl. pt. 3. 2704. 1905.

by the very frequent mention of its habit of concealing its inflorescences within the closed upper leaf-sheaths, a character which, it will be remembered, apparently suggested to Weber the name *clandestina*. Thus, Sowerby and Johnson<sup>1</sup> say, "This grass rarely, if ever, produces its inflorescence in England: it may, however, be found about the end of August enclosed within the inflated sheath of the uppermost leaf and occasionally even with a few flowers pushing forth, to fall off probably without maturing." Jessen,<sup>2</sup> speaking of *Oryza clandestina*, makes the comment, "Rispe, besonders im Norden, oft in der obersten Blattscheide eingeschlossen." Boreau<sup>3</sup> describes the panicle as "renfermé d'abord dans la gaine d'une feuille supérieure." Observations of this nature might be adduced at great length.

In 1877 Wiesbaur distributed, in his Herbarium Europaeum, material of a clandestine form of this grass under the name of *Oryza clandestina* A. Br., forma *inclusa* Wiesb. (No. 3062). At the same time specimens of the open-panicled form were sent out as *O. clandestina*, forma *patens* Wiesb. (No. 3063). Neither of these formal epithets was accompanied by a diagnosis and both persisted merely as herbarium names until 1897 when Baenitz<sup>4</sup> gave them proper publication in the Deutsche Botanische Monatschrift. Baenitz here cites the comments of such botanists as Reichenbach, Wimmer, Ascherson and Fiek, all of whom have observed the tendency of the panicle of this grass to remain enclosed within the leaf-sheath and who unite in correlating the emergence of the inflorescence with the extreme heat of late summer or of a particularly warm season. The author puts forth his own views in support of these observations and concludes by presenting a key whereby the two forms of *O. clandestina* may be differentiated; this may be translated as follows:

Culms caespitose, up to 0.5 m. high; leaves dark-green;  
flowers and fruiting panicles remaining in the closed  
leaf-sheaths and tightly compressed.....f. *inclusa* Wiesb.  
Culms single, up to 2 m. high; leaves yellowish-green; flowers  
and fruiting panicles well developed, emerging from the  
leaf sheath and spreading.....f. *patens* Wiesb.

That the occurrence of forma *inclusa* may be considered as widespread in Europe is evidenced not only by the references already

<sup>1</sup> Grasses of Gr. Brit. 4. 1861.

<sup>2</sup> Deutsch. Gräser u. Getreidearten 252. 1863.

<sup>3</sup> Fl. Centre Fr. Ed. 3. pt. 3. 685. 1857.

<sup>4</sup> Deutsche Bot. Monats. 15: 19-21. 1897.

cited but by the observations of Junge,<sup>1</sup> Hackel,<sup>2</sup> Hegi<sup>3</sup> and Ascherson and Graebner,<sup>4</sup> all of whom have encountered it and make special mention of its peculiar characteristic. No one, however, seems to have deemed it worthy of more than formal recognition.

In North America the clandestine form of the Rice Cut-grass has been awarded a taxonomic appellation by Eames,<sup>5</sup> who, seemingly under the impression that he was characterizing it as new and disregarding Ehrhart's old specific name, called it *Leersia oryzoides*, forma *clandestina*, and described it as follows: "paniculis et terminalibus et lateralibus intra vaginas omino inclusis; ceteris formae typicae similis." This diagnosis, with the additional comment, "Usually very slender, simple, attaining a length of about 1 m.," leaves very little doubt that Eames's plant is identical with the wide-spread form long recognized in Europe. In view, therefore, of the apparent absence of a correct nomenclatorial designation, the following new combination is here proposed:

LEERSIA ORYZOIDES (L.) Sw., forma **inclusa** (Wiesb.), n. comb. *Oryza clandestina* (Weber) A. Br., f. *inclusa* Wiesb. Baenitz in Deutsche Bot. Monatschr. **15**: 19. 1897. *L. oryzoides* (L.) Sw., f. *clandestina* E. H. Eames RHODORA **18**: 239. 1916. Occasional with the species. The following specimens in the Gray Herbarium and the Herbarium of The New England Botanical Club may be referred here: QUEBEC: Black Lake, Aug. 27, 1915, *Fernald & Jackson*, no. 12,003; Sainte Geneviève, Sept. 5, 1925, *Victorin*, no. 20,567; Rosemère, Sept. 22, 1922, *Victorin*, no. 16,260; Longeuil, Sept., 1922, *Victorin*, no. 15,225. NOVA SCOTIA: George River, Aug. 27, 1920, *Bissell & Linder*, no. 19,853; North Sydney, Aug. 30, 1920, *Bissell & Linder*, no. 19,849; Gavelton, Sept. 4, 1920, *Fernald, Long & Linder*, nos. 19,850 & 19,851. NEW HAMPSHIRE: Randolph Hill, Sept. 11, 1904, *Pease*, no. 4055; Gorham, Sept. 2, 1907, *Pease*, no. 10,723. VERMONT: Townshend, Sept. 5, 1912, *L. A. Wheeler*. MASSACHUSETTS: Newburyport, Oct. 2, 1902, *Eaton & Fernald*; Chatham, Sept. 9, 1913, *Fernald & Long*, no. 8686; Naushon, Oct. 1, 1927, *Fogg*, no. 3135. RHODE ISLAND: Warwick, Sept. 8, 1914, *Collins, Fernald & York*, no. 11,283. CONNECTICUT: Stratford, Oct. 6, 1901, *E. H. Eames*. ILLINOIS: Joliet, Aug. 22, 1904, *H. C. Skeels*, no. 463.

In view of the oft-repeated statement by European writers that in many regions *L. oryzoides* puts forth its panicles only in late summer or very warm seasons, the restriction of forma *inclusa* in eastern North

<sup>1</sup> Die Gram. Schleswig-Holst. 120-122. 1913.

<sup>2</sup> Österreich Bot. Zeitschr. **56**: 82. 1906.

<sup>3</sup> Ill. Fl. Mittel-Eur. **1**: 194. 1907.

<sup>4</sup> Syn. Mitteleur. Fl. **1**: 12-14. 1898-1902.

<sup>5</sup> RHODORA **18**: 239. 1916.

America to an essentially northern range (Quebec to Connecticut and westward), and the wide-spread occurrence of the open-panicked form (Quebec and Nova Scotia to Oregon, Florida, Texas and California) would seem to indicate a response to the length of the growing period. Thus, Professor Fernald states,<sup>1</sup> "This form [*forma inclusa*] seems to be more common in Nova Scotia than the typical form of the species with exserted panicles." Also, the general lateness of the dates of collection of the specimens cited above serves to suggest that in some cases the clandestine habit may be associated with secondary flowering.

GRAY HERBARIUM.

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CONTRIBUTIONS FROM THE GRAY HERBARIUM OF  
HARVARD UNIVERSITY.—NO. LXXIX.

(Continued from page 78.)

5. *P. SPECUICOLA* Rydb. *Leaves* spatulate, rounded at summit, narrowed to a subpetiolar base, *membranaceous, sinuate-dentate*, 4–13 cm. long, 0.7–2 cm. broad, farinose to efarinose beneath: *scape* 1–1.6 dm. high, 1.5–2 mm. in diameter, *efarinose: involucral bracts* lance-attenuate or -involute, 4–10 mm. long, *dorsally thickened but scarcely gibbous at base*: umbel 6–12-flowered: pedicels strongly ascending, in anthesis 0.5–1 cm., in fruit sometimes elongating to 4 cm. long: *calyx farinose*, campanulate, *becoming turbinate*, in maturity 6–9 mm. long and 3 mm. in diameter; the *lance-attenuate to -subulate lobes* about equaling the tube: *corolla-tube* yellowish, 8–10 mm. long, its *violet limb* 6–10 mm. broad, with the narrowly cuneate lobes emarginate: stamens inserted near the middle of the tube; the anthers and stigma not exserted; *capsule much overtopped by the calyx-lobes*: seeds angulate, 0.4–0.6 mm. long, fulvous, muriculate.—Bull. Torr. Bot. Cl. xl. 461 (1913). *P. farinosa* Eastwood, Proc. Cal. Acad. ser. 2, vi. 304 (1897).—Southeastern UTAH: moist bench of cliffs near Bluff City, *Eastwood*, no. 68; Moab, June 7, 1913, *M. E. Jones*. Rydberg's type was from "loose soil, under overhanging cliffs in the alcove-like heads of the canyons, characteristic of the limestone bluffs of San Juan River," near Bluffs.

*P. specuicola* differs from *P. farinosa* and from all other American species which have been called *P. farinosa* in the very sharp calyx-lobes, long corolla-tube and short capsule. I have seen no good flowers but Rydberg's description of the corolla-limb as "dark

<sup>1</sup> RHODORA 23: 229. 1921.